REMARKS

Reconsideration and further examination are requested.

1. Disposition of Claims

Claims 1, 9-10, 13, 15, 17, 19, 22-24, 29, 33, 40-43, 45, 47-48, 51-52, 56, 60, 62, 73-74, 82-83, 86, 88, 90, 92, & 94-97 are pending in this application.

Claims 33, 40-43, 45, 47-48, 51-52, 56, 60-62, 73-74, 82-83, 86, 90, 92, & 94-97 have been withdrawn from consideration. The amendments to claim 33 below should facilitate rejoinder. Claim 40 is ready for rejoinder.

Claims 1, 9-10, 13, 15, 17, 19, 22-24, and 29 are rejected.

Claims 1 & 29 are currently amended. Support for the amendments to claims 1 & 29 is in the as-filed specification, e.g., at p. 18, l. 2-15, *see also* Exs. 1-9.

No new matter is added.

2. Rejections under 35 U.S.C. § 103(a)

Claims 1, 9-10, 13, 15, 17, 19, 22-24, and 29 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Lapidot et al. (US Pub. No. 2002/0064541).[1] FOA ¶ 6. The record is sufficiently developed and will not be repeated here. The present rejection is traversed, because the rejected claims avoid this issue.

More specifically, currently amended claim 1 is novel and nonobvious over Lapidot, especially since each of the following combined features is neither taught nor suggested:

> *wherein the microcapsular shell comprises at least one inorganic polymer comprising polymerized precursors obtained by in-situ polymerization of said precursors in a pH in the range of 2 to 7;*
>
> *wherein the ratio of said precursors to said core material is in the range of 5/95*

[1] Lapidot recently issued as US 7,758,888, and status information indicates the existence of 90/011,440 filed on 01-18-2011.

to 25/75; and

wherein the concentration of the core material based on total weight of the microcapsules is 96% to 99% w/w.

An objective of the present inventors was to obtain microcapsules having a high core load of between 96 to 99% w/w, which the examiner should agree is a significant loading value.

As indicted in the application, there is a widely recognized need and it will be highly advantageous to have microcapsules comprising a high concentration (above 95 percent w/w) of the core material (which includes the active ingredient) and yet which is capable of minimizing the contact between the active ingredient and the environment. Such high concentration of the core material is sufficient, for example, in order to obtain high Sun Protection Factor (SPF) values, or in many other applications where high loading of an encapsulated active ingredient in the composition is required.

It was surprisingly found by the inventors that decreasing the weight ratio of the precursor to the core material to the range of 5/95 to 25/75 and performing the condensation-polymerization process in a pH of 2-7, enables an efficient encapsulation of the core material with high concentration of above 95% w/w (i.e., of between 96 to 99%w/w) of the core material and yet makes it possible to prevent leaching of the core material (including the active ingredient) from the microcapsules. This was unexpected.

Also unexpectedly, it was found that although the weight ratio of the precursor to the core material was decreased from an exemplary embodiment having about 50/50 (*cf.*, for example, Lapidot) to the range of 5/95 to 25/75, the polymerization of the precursor was of high efficiency and a higher yield was obtained from the point of view of the quantity of silica developed on the shell of the microcapsule, as revealed by the high concentration of the core material and insignificant amount of the residual precursor in the reaction aqueous medium (in the form of colloidal silica) in which the microcapsules are produced. This was found to be highly advantageous since it minimized the environmental contamination, did not require treatment of the reaction waste water and thus simplified and lowered the cost of the process. These attributes were unexpected.

Another advantage of the process of making an embodiment falling within the scope of the rejected claims is the elimination of the step of isolation of the microcapsules by centrifugation,

filtration, re-suspension etc., which is used in the prior art in order to obtain a high concentration of particles in a final product. In the process disclosed in document Lapidot, isolation the microcapsules from the mother liquor was used in order to obtain a concentration of 40% w/w of sunscreen in the suspension, while, in the present application, no intermediate isolation step was needed due to the high loading of the active ingredient in the oil phase at the emulsion step and due to the high concentration of the oily phase in the emulsion - 50-90% w/w.

It is further noted that it was neither suggested nor expected by one of ordinary skill in the art, even those reading Lapidot, that higher loading is in any way possible with microcapsules obtained by in-situ polymerization of polymerized precursors, especially not in a much more acidic pH range of 2-7 and in a precursor to core material ratio of 5/95 to 25/75. This combination of conditions was neither taught nor suggested in Lapidot, which relates to more basic pH ranges and a ratio of precursor to core material of about 50/50, and therefore such high load of core material was not expected to be achieved.

The Examiner found that document Lapidot teaches a pH of 7.4 (in Example 8), which is approximately within the presently recited pH, e.g., pH 7.0, which therefore makes using the recited obvious over Lapidot. For the record, the log scale is nonlinear, and Lapidot's pH 7.4 is about 250% smaller than pH 7.0 (pH 7.0/pH 7.4 x 100% = 250%). In any case, claim 1, however, further recites *wherein the ratio of said precursors to said core material is in the range of 5/95 to 25/75*, which further distinguishes embodiments of claim 1 from those of Lapidot.

An analogous line of reasoning applies to claim 29.

For these reasons, the rejection should be withdrawn.

Conclusion

Favorable reconsideration of the application is respectfully requested. It is believed that the present application is in condition for allowance.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 07-1337 and please credit any excess fees to such deposit account.

Respectfully submitted,

LOWE HAUPTMAN HAM & BERNER, LLP

Benjamin J. Hauptman
Registration No. 29,310

Customer Number: 22429
1700 Diagonal Road, Suite 300
Alexandria, Virginia 22314
(703) 684-1111
(703) 518-5499 Facsimile
Date: April 26, 2011
BJH:SAP/tal